

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)

## 281550001200-FIXATIVE SPRAY FOR 3D PRINTING - 3DLAC



Version: 0  
Revision date: 25/06/2019

Page 1 of 12  
Print date: 25/06/2019

### SECTION 1: IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY/UNDERTAKING.

#### 1.1 Product identifier.

Product Name: FIXATIVE SPRAY FOR 3D PRINTING 400 ML (520 CC) - 3DLAC  
Product Code: 281550001200

#### 1.2 Relevant identified uses of the mixture and uses advised against.

Adhesive spray for 3D printers.

#### Uses advised against:

Uses other than those recommended.

#### 1.3 Details of the supplier of the safety data sheet.

Company: **LAISEVEN COSMETICS, S.L.**  
Address: C/ Ciudad de Sevilla, 11 - Polígono Fuente del Jarro  
City: Paterna  
Province: Valencia  
Telephone: (+34) 963 752 200  
Fax: (+34) 963 750 919  
E-mail: laiseven@laisevencosmetics.com

#### 1.4 Emergency telephone number:

**Company:** (+34) 963 750 200 (Only available during office hours; Monday-Friday; 08:00-17:00)

**Serv. Med. Info. Toxicology (INTCF):** 915 620 420 (24h/365d, information in Spanish only in order to give emergency health response in Spain)

### SECTION 2: HAZARDS IDENTIFICATION.

#### 2.1 Classification of the mixture.

In accordance with Regulation (EU) No 1272/2008:

Aerosol 1 : Pressurised container: May burst if heated.

Eye Irrit. 2 : Causes serious eye irritation.

STOT SE 3 : May cause drowsiness or dizziness.

#### 2.2 Label elements.

##### Labelling in accordance with Regulation (EU) No 1272/2008:

Pictograms:



Signal Word:

**Danger**

H statements:

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

P statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.

-Continued on next page.-

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)

## 281550001200-FIXATIVE SPRAY FOR 3D PRINTING - 3DLAC



Version: 0  
Revision date: 25/06/2019

Page 2 of 12  
Print date: 25/06/2019

P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.  
P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P264 Wash ... thoroughly after handling.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

EUH statements:  
For professional users only.

Contains:  
isopropanol, isopropyl alcohol, propan-2-ol

### 2.3 Other hazards.

In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

### 3.1 Substances.

Not Applicable.

### 3.2 Mixtures.

Substances posing a danger to health or the environment in accordance with the Regulation (EC) No. 1272/2008, assigned a Community exposure limit in the workplace, and classified as PBT/vPvB or included in the Candidate List:

Identifiers	Name	Concentrate	(*)Classification - Regulation (EC) No 1272/2008	
			Classification	specific concentration limit
Index No: 603-117-00-0 CAS No: 67-63-0 EC No: 200-661-7 Registration No: 01-2119457558-25-XXXX	[1] isopropanol, isopropyl alcohol, propan-2-ol	20 - 50 %	Eye Irrit. 2, H319 - Flam. Liq. 2, H225 - STOT SE 3, H336	-
CAS No: 109-87-5 EC No: 203-714-2 Registration No: 01-2119664781-31-XXXX	[1] dimethoxymethane	25 - 50 %	Flam. Liq. 2, H225	-
Index No: 603-002-00-5 CAS No: 64-17-5 EC No: 200-578-6 Registration No: 01-2119457610-43-XXXX	[1] ethanol, ethyl alcohol	2.5 - 10 %	Flam. Liq. 2, H225	-

(\*) The complete text of the H phrases is given in section 16 of this Safety Data Sheet.

[1] Substance with a Community workplace exposure limit (see section 8.1).

## SECTION 4: FIRST AID MEASURES.

### 4.1 Description of first aid measures.

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

#### Inhalation.

Take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration. Do not administer anything orally. If unconscious, place them in a suitable position and seek medical assistance.

-Continued on next page.-

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)

## 281550001200-FIXATIVE SPRAY FOR 3D PRINTING - 3DLAC



Version: 0  
Revision date: 25/06/2019

Page 3 of 12  
Print date: 25/06/2019

### **Eye contact.**

Remove contact lenses, if present and if it is easy to do. Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance. Don't let the person to rub the affected eye.

### **Skin contact.**

Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. NEVER use solvents or thinners.

### **Ingestion.**

If accidentally ingested, seek immediate medical attention. Keep calm. NEVER induce vomiting.

### **4.2 Most important symptoms and effects, both acute and delayed.**

Irritant Product, repeated or prolonged contact with skin or mucous membranes can cause redness, blisters or dermatitis, inhalation of spray mist or particles in suspension may cause irritation of the respiratory tract, some symptoms may not be immediate.

### **4.3 Indication of any immediate medical attention and special treatment needed.**

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious. Cover the affected area with a dry sterile bandage. Protect the affected area from pressure or friction.

## SECTION 5: FIREFIGHTING MEASURES.

The product is Extremely inflammable, it can cause or considerably worsen a fire, the necessary prevention measures should be taken and risks avoided. In case of fire, the following measures are recommended:

### **5.1 Extinguishing media.**

#### **Suitable extinguishing media:**

Extinguisher powder or CO<sub>2</sub>. In case of more serious fires, also alcohol-resistant foam and water spray.

#### **Unsuitable extinguishing media:**

Do not use a direct stream of water to extinguish. In the presence of electrical voltage, you cannot use water or foam as extinguishing media.

### **5.2 Special hazards arising from the mixture.**

#### **Special risks.**

Fire can cause thick, black smoke. As a result of thermal decomposition, dangerous products can form: carbon monoxide, carbon dioxide. Exposure to combustion or decomposition products can be harmful to your health.

During a fire and depending on its magnitude the following may occur:

- Flammable vapors or gases.
- Explosions.

### **5.3 Advice for firefighters.**

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways. Follow the instructions given in the emergency or fire evacuation plan or plans if available.

#### **Fire protection equipment.**

According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and boots. During extinction and depending on the magnitude and proximity to the fire, additional protective equipment such as chemical protection gloves, heat-reflecting suits or gas-tight suits may be required.

## SECTION 6: ACCIDENTAL RELEASE MEASURES.

### **6.1 Personal precautions, protective equipment and emergency procedures.**

Eliminate possible ignition points and ventilate the area. No smoking. Avoid breathing fumes. For exposure control and individual protection measures, see section 8.

### **6.2 Environmental precautions.**

Prevent the contamination of drains, surface or subterranean waters, and the ground.

-Continued on next page.-

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)

## 281550001200-FIXATIVE SPRAY FOR 3D PRINTING - 3DLAC

Version: 0  
Revision date: 25/06/2019

Page 4 of 12  
Print date: 25/06/2019

### 6.3 Methods and material for containment and cleaning up.

Pick up the spill with non-combustible absorbent materials (soil, sand, vermiculite, diatomite, etc.). Pour the product and the absorbent in an appropriate container. The contaminated area should be immediately cleaned with an appropriate decontaminator. Pour the decontaminator on the remains in an opened container and let it act various days until no further reaction is produced.

### 6.4 Reference to other sections.

For exposure control and individual protection measures, see section 8.  
For later elimination of waste, follow the recommendations under section 13.

## SECTION 7: HANDLING AND STORAGE.

### 7.1 Precautions for safe handling.

The fumes are heavier than air and can spread across the ground. They can form explosive mixtures with air. Prevent the creation of flammable or explosive fume concentrations in the air; prevent fume concentrations above work exposure limits. The product must only be used in areas where all unprotected flames and other ignition points have been eliminated. Electrical equipment has to be protected according to applicable standards.

The product can be electrostatically charged: always use earth grounds when transferring the product. Operators must use anti-static footwear and clothing, and floors must be conductors.

Keep the container tightly closed and isolated from heat sources, sparks, and fire. Do not use tools that can cause sparks. For personal protection, see section 8.

In the application area, smoking, eating, and drinking must be prohibited.

Follow legislation on occupational health and safety.

Pressurised gases must be handled by suitably trained and experienced individuals. Use equipment suitable for supply pressure and temperature. Protect containers against physical damage and keep valves clean and in perfect condition. Do not tamper with original packaging.

### 7.2 Conditions for safe storage, including any incompatibilities.

Store according to local legislation. Observe indications on the label. Store the containers between 5 and 35° C, in a dry and well-ventilated place, far from sources of heat and direct solar light. Keep far away from ignition points. Keep away from oxidising agents and from highly acidic or alkaline materials. Do not smoke. Prevent the entry of non-authorized persons. It must not be stored under conditions conducive to corrosion of the container. Protect containers against physical damage and inspect them regularly to ensure they are in good condition.

The product is not affected by Directive 2012/18/EU (SEVESO III).

### 7.3 Specific end use(s).

Not available.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

### 8.1 Control parameters.

Work exposure limit for:

Name	CAS No.	Country	Limit value	ppm	mg/m <sup>3</sup>
isopropanol, isopropyl alcohol, propan-2-ol	67-63-0	United Kingdom [1]	Eight hours	400	999
			Short term	500	1250
		United States [2] (Cal/OSHA)	Eight hours	400	
			Short term	500	
		United States [3] (NIOSH)	Eight hours	400	
			Short term	500	
		United States [4] (OSHA)	Eight hours	400	980
			Short term		
dimethoxymethane	109-87-5	United Kingdom [1]	Eight hours	1000	3160
			Short term	1250	3950
		United States [2] (Cal/OSHA)	Eight hours	1000	
			Short term		
		United States [3] (NIOSH)	Eight hours	1000	
			Short term		

-Continued on next page.-

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)

## 281550001200-FIXATIVE SPRAY FOR 3D PRINTING - 3DLAC



Version: 0

Revision date: 25/06/2019

Page 5 of 12

Print date: 25/06/2019

		United States [4] (OSHA)	<b>Eight hours</b>	1000	3100
			<b>Short term</b>		
ethanol,ethyl alcohol	64-17-5	United Kingdom [1]	<b>Eight hours</b>	1000	1920
			<b>Short term</b>		
		United States [2] (Cal/OSHA)	<b>Eight hours</b>	1000	
			<b>Short term</b>		
		United States [3] (NIOSH)	<b>Eight hours</b>	1000	
			<b>Short term</b>		
		United States [4] (OSHA)	<b>Eight hours</b>	1000	1900
			<b>Short term</b>		

[1] According Limit Value (IOELV) list in 2nd Indicative Occupational Exposure adopted by Health and Safety Executive.

[2] California Division of Occupational Safety and Health (Cal/OSHA) Permissible Exposure Limits (PELs).

[3] National Institute for Occupational Safety and Health. NIOSH Recommendations for occupational safety and health, Compendium of Policy Documents and Statements, January, 1992, DHHS (NIOSH) Publication No. 92-100.

[4] Occupational Safety and Health Administration, United States Department of Labor. Permissible Exposure limits (PELs), California Division of Occupational Safety and Health (Cal/OSHA) Permissible Exposure Limits (PELs).

The product does NOT contain substances with Biological Limit Values.

Concentration levels DNEL/DMEL:

Name	DNEL/DMEL	Type	Value
isopropanol,isopropyl alcohol,propan-2-ol CAS No: 67-63-0 EC No: 200-661-7	DNEL (Workers)	Inhalation, Long-term, Systemic effects	500 (mg/m <sup>3</sup> )
	DNEL (General population)	Inhalation, Long-term, Systemic effects	89 (mg/m <sup>3</sup> )
	DNEL (Workers)	Dermal, Long-term, Systemic effects	888 (mg/kg bw/day)
	DNEL (General population)	Dermal, Long-term, Systemic effects	319 (mg/kg bw/day)
	DNEL (General population)	Oral, Long-term, Systemic effects	26 (mg/kg bw/day)
dimethoxymethane CAS No: 109-87-5 EC No: 203-714-2	DNEL (Workers)	Inhalation, Long-term, Systemic effects	132 (mg/m <sup>3</sup> )
ethanol,ethyl alcohol CAS No: 64-17-5 EC No: 200-578-6	DNEL (Workers)	Inhalation, Long-term, Systemic effects	950 (mg/m <sup>3</sup> )

DNEL: Derived No Effect Level, level of exposure to the substance below which adverse effects are not anticipated.

DMEL: Derived Minimal Effect Level, exposure level corresponding to a low risk, that risk should be considered a tolerable minimum.

Concentration levels PNEC:

Name	Details	Value
isopropanol,isopropyl alcohol,propan-2-ol CAS No: 67-63-0 EC No: 200-661-7	aqua (freshwater)	140,9 (mg/L)
	aqua (marine water)	140,9 (mg/L)
	aqua (intermittent releases)	140,9 (mg/L)
	sediment (freshwater)	552 (mg/kg sediment dw)
	sediment (marine water)	552 (mg/kg sediment dw)
	Soil	28 (mg/kg soil dw)
	PNEC STP	2251 (mg/L)
	PNEC oral (Hazard for predators)	160 (mg/kg food)
ethanol,ethyl alcohol CAS No: 64-17-5 EC No: 200-578-6	Fresh water	0,96 (mg/L)
	Marine water	0,79 (mg/L)
	aqua (intermittent releases)	2,75 (mg/L)
	Soil	0,63 (mg/kg soil dw)

-Continued on next page.-

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)

## 281550001200-FIXATIVE SPRAY FOR 3D PRINTING - 3DLAC



Version: 0  
Revision date: 25/06/2019

Page 6 of 12  
Print date: 25/06/2019

	sediment (freshwater)	3,6 (mg/kg sediment dw)
--	-----------------------	-------------------------

PNEC: Predicted No Effect Concentration, concentration of the substance below which adverse effects are not expected in the environmental compartment.

### 8.2 Exposure controls.

#### Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

<b>Concentration:</b>	100 %		
<b>Uses:</b>	Adhesive spray for 3D printers.		
<b>Breathing protection:</b>			
PPE:	Filter mask for protection against gases and particles.		
Characteristics:	«CE» marking, category III. The mask must have a wide field of vision and an anatomically designed form in order to be sealed and watertight.		
CEN standards:	EN 136, EN 140, EN 405		
Maintenance:	Should not be stored in places exposed to high temperatures and damp environments before use. Special attention should be paid to the state of the inhalation and exhalation valves in the face adaptor.		
Observations:	Read carefully the manufacturer's instructions regarding the equipment's use and maintenance. Attach the necessary filters to the equipment according to the specific nature of the risk (Particles and aerosols: P1-P2-P3, Gases and vapours: A-B-E-K-AX), changing them as advised by the manufacturer.		
Filter Type needed:	A2		
<b>Hand protection:</b>			
PPE:	Work gloves.		
Characteristics:	«CE» marking, category I.		
CEN standards:	EN 374-1, En 374-2, EN 374-3, EN 420		
Maintenance:	Keep in a dry place, away from any sources of heat, and avoid exposure to sunlight as much as possible. Do not make any changes to the gloves that may alter their resistance, or apply paints, solvents or adhesives.		
Observations:	Gloves should be of the appropriate size and fit the user's hand well, not being too loose or too tight. Always use with clean, dry hands.		
Material:	PVC (polyvinyl chloride)	Breakthrough time (min.):	> 480
		Material thickness (mm):	0,35
<b>Eye protection:</b>			
PPE:	Face shield.		
Characteristics:	«CE» marking, category II. Face and eye protector against splashing liquid.		
CEN standards:	EN 165, EN 166, EN 167, EN 168		
Maintenance:	Visibility through lenses should be ideal. Therefore, these parts should be cleaned daily. Protectors should be disinfected periodically following the manufacturer's instructions. Make sure that mobile parts move smoothly.		
Observations:	Face shields should offer a field of vision with a dimension in the central line of, at least, 150 mm vertically once attached to the frame.		
<b>Skin protection:</b>			
PPE:	Anti-static protective clothing.		
Characteristics:	«CE» marking, category II. Protective clothing should not be too tight or loose in order not to obstruct the user's movements.		
CEN standards:	EN 340, EN 1149-1, EN 1149-2, EN 1149-3, EN 1149-5		
Maintenance:	In order to guarantee uniform protection, follow the washing and maintenance instructions provided by the manufacturer.		
Observations:	The protective clothing should offer a level of comfort in line with the level of protection provided in terms of the hazard against which it protects, bearing in mind environmental conditions, the user's level of activity and the expected time of use.		
PPE:	Anti-static safety footwear.		
Characteristics:	«CE» marking, category II.		
CEN standards:	EN ISO 13287, EN ISO 20344, EN ISO 20346		
Maintenance:	The footwear should be checked regularly		
Observations:	The level of comfort during use and acceptability are factors that are assessed very differently depending on the user. Therefore, it is advisable to try on different footwear models and, if possible, different widths.		

-Continued on next page.-

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)

## 281550001200-FIXATIVE SPRAY FOR 3D PRINTING - 3DLAC



Version: 0  
Revision date: 25/06/2019

Page 7 of 12  
Print date: 25/06/2019

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

#### 9.1 Information on basic physical and chemical properties.

Appearance: Transparent liquid with characteristic odour  
Colour: Slightly yellow  
Odour: N.A./N.A.  
Odour threshold: N.A./N.A.  
pH: N.A./N.A.  
Melting point: N.A./N.A.  
Boiling Point: N.A./N.A.  
Flash point: -77 °C  
Evaporation rate: N.A./N.A.  
Inflammability (solid, gas): N.A./N.A.  
Lower Explosive Limit: N.A./N.A.  
Upper Explosive Limit: N.A./N.A.  
Vapour pressure: N.A./N.A.  
Vapour density: N.A./N.A.  
Relative density: 0,818-0,826  
Solubility: N.A./N.A.  
Liposolubility: N.A./N.A.  
Hydrosolubility: N.A./N.A.  
Partition coefficient (n-octanol/water): N.A./N.A.  
Auto-ignition temperature: N.A./N.A.  
Decomposition temperature: N.A./N.A.  
Viscosity: N.A./N.A.  
Explosive properties: N.A./N.A.  
Oxidizing properties: N.A./N.A.  
N.A./N.A.= Not Available/Not Applicable due to the nature of the product

#### 9.2 Other information.

Pour point: N.A./N.A.  
Blink: N.A./N.A.  
Kinematic viscosity: N.A./N.A.  
N.A./N.A.= Not Available/Not Applicable due to the nature of the product

### SECTION 10: STABILITY AND REACTIVITY.

#### 10.1 Reactivity.

If the storage conditions are satisfied, does not produce dangerous reactions.

#### 10.2 Chemical stability.

Stable under the recommended handling and storage conditions (see section 7).

#### 10.3 Possibility of hazardous reactions.

Extremely flammable aerosol.  
Pressurised container: May burst if heated.  
At high temperatures can occur pyrolysis and dehydrogenation.

#### 10.4 Conditions to avoid.

Avoid the following conditions:

- Heating.
- High temperature.
- Static discharge.
- Contact with incompatible materials.
- Avoid temperatures near or above the flash point. Do not heat closed containers. Avoid direct sunlight and heat, as these may cause a risk of fire.

#### 10.5 Incompatible materials.

Avoid the following materials:

- Acids.
- Bases.
- Oxidizing agents.

-Continued on next page.-

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)

## 281550001200-FIXATIVE SPRAY FOR 3D PRINTING - 3DLAC

Version: 0  
Revision date: 25/06/2019

Page 8 of 12  
Print date: 25/06/2019

- Explosives materials.
- Toxic materials.
- Oxidizing materials.

### 10.6 Hazardous decomposition products.

In case of fire, dangerous decomposition products can be generated, such as carbon monoxide and dioxide and nitrogen fumes and oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION.

IRRITANT PREPARATION. Splatters in the eyes can cause irritation.

IRRITANT PREPARATION. The inhalation of spray mist or suspended particulates can irritate the respiratory tract. It can also cause serious respiratory difficulties, central nervous system disorders, and in extreme cases, unconsciousness.

### 11.1 Information on toxicological effects.

Repeated or prolonged contact with the product can cause the elimination of oil from the skin, giving rise to non-allergic contact dermatitis and absorption of the product through the skin.

Splatters in the eyes can cause irritation and reversible damage.

### Toxicological information about the substances present in the composition.

Name	Acute toxicity			
	Type	Test	Kind	Value
isopropanol, isopropyl alcohol, propan-2-ol	Oral	LD50	Rat	5050 mg/kg bw [1] [1] <i>Gigiena i Sanitariya</i> . For English translation, see HYSAAV. Vol. 43(1), Pg. 8, 1978
	Dermal	LD50	Rabbit	12800 mg/kg bw [1] [1] <i>Raw Material Data Handbook, Vol.1: Organic Solvents, 1974. Vol. 1, Pg. 100, 1974</i>
CAS No: 67-63-0      EC No: 200-661-7	Inhalation	LC50	Rat	>10000 ppm (6 h) [1]
				[1] <i>OECD Guideline 403 (Acute Inhalation Toxicity), study report, 1991</i>

a) acute toxicity;

Not conclusive data for classification.

b) skin corrosion/irritation;

Not conclusive data for classification.

c) serious eye damage/irritation;

Product classified:

Eye irritation, Category 2: Causes serious eye irritation.

d) respiratory or skin sensitisation;

Not conclusive data for classification.

e) germ cell mutagenicity;

Not conclusive data for classification.

f) carcinogenicity;

Not conclusive data for classification.

g) reproductive toxicity;

Not conclusive data for classification.

h) STOT-single exposure;

Product classified:

Specific target organ toxicity following a single exposure, Category 3:

i) STOT-repeated exposure;

Not conclusive data for classification.

-Continued on next page.-



# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)

## 281550001200-FIXATIVE SPRAY FOR 3D PRINTING - 3DLAC

Version: 0  
Revision date: 25/06/2019

Page 9 of 12  
Print date: 25/06/2019

j) aspiration hazard;  
Not conclusive data for classification.

### SECTION 12: ECOLOGICAL INFORMATION.

#### 12.1 Toxicity.

Name	Ecotoxicity			
	Type	Test	Kind	Value
isopropanol, isopropyl alcohol, propan-2-ol  CAS No: 67-63-0      EC No: 200-661-7	Fish	LC50	Fish	9640 mg/l (96 h) [1] [1] Brooke, L.T., D.J. Call, D.L. Geiger, and C.E. Northcott 1984. Acute Toxicities of Organic Chemicals to Fathead Minnows ( <i>Pimephales promelas</i> ), Vol. 1. Center for Lake Superior Environmental Stud., Univ. of Wisconsin-Superior, Superior, WI :414
	Aquatic invertebrates	LC50	Crustacean	1400 mg/l (48 h) [1] [1] Blackman, R.A.A. 1974. Toxicity of Oil-Sinking Agents. Mar.Pollut.Bull. 5:116-118
	Aquatic plants	Toxicity threshold	Scenedesmus quadricauda	1800 mg/L (7 d) [1] [1] Comparison of the Toxicity Thresholds of Water Pollutants to Bacteria, Algae, and Protozoa in the Cell Multiplication Inhibition Test, Water Research Vol. 14. pp. 231 to 241

#### 12.2 Persistence and degradability.

There is no information available on the degradability of the substances present.  
No information is available regarding the degradability of the substances present. No information is available about persistence and degradability of the product.

#### 12.3 Bioaccumulative potential.

Information about the bioaccumulation of the substances present.

Name	Bioaccumulation			
	Log Pow	BCF	NOECs	Level
isopropanol, isopropyl alcohol, propan-2-ol N. CAS: 67-63-0      EC No: 200-661-7	0,05	-	-	Very low
dimethoxymethane N. CAS: 109-87-5      EC No: 203-714-2	0	-	-	Very low
ethanol, ethyl alcohol N. CAS: 64-17-5      EC No: 200-578-6	-0,3	-	-	Very low

#### 12.4 Mobility in soil.

No information is available about the mobility in soil.  
The product must not be allowed to go into sewers or waterways.  
Prevent penetration into the ground.

-Continued on next page.-

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)

## 281550001200-FIXATIVE SPRAY FOR 3D PRINTING - 3DLAC



Version: 0  
Revision date: 25/06/2019

Page 10 of 12  
Print date: 25/06/2019

### 12.5 Results of PBT and vPvB assessment.

No information is available about the results of PBT and vPvB assessment of the product.

### 12.6 Other adverse effects.

No information is available about other adverse effects for the environment.

## SECTION 13 DISPOSAL CONSIDERATIONS.

### 13.1 Waste treatment methods.

Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.

Follow the provisions of Directive 2008/98/EC regarding waste management.

## SECTION 14: TRANSPORT INFORMATION.

Transport following ADR rules for road transport, RID rules for railway, ADN for inner waterways, IMDG for sea, and ICAO/IATA for air transport.

**Land:** Transport by road: ADR, Transport by rail: RID.

Transport documentation: Consignment note and written instructions

**Sea:** Transport by ship: IMDG.

Transport documentation: Bill of lading

**Air:** Transport by plane: ICAO/IATA.

Transport document: Airway bill.

### 14.1 UN number.

UN No: UN1950

### 14.2 UN proper shipping name.

Description:

ADR: UN 1950, AEROSOLS, 2.1, (D)

IMDG: UN 1950, AEROSOLS, 2.1

ICAO/IATA (Passenger aircraft): PROHIBITED

ICAO/IATA (Cargo aircraft): UN 1950, AEROSOLS, 2.1

### 14.3 Transport hazard class(es).

Class(es): 2

### 14.4 Packing group.

Packing group: Not applicable.

### 14.5 Environmental hazards.

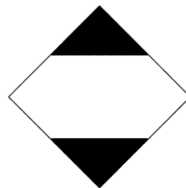
Marine pollutant: No

### 14.6 Special precautions for user.

ADR LQ: 1 L

IMDG LQ: 0

ICAO LQ: Not applicable.



Provisions concerning carriage in bulk ADR: Not authorized carriage in bulk in accordance with ADR.

Transport by ship, FEm – Emergency sheets (F – Fire, S - Spills): F-D,S-U

Proceed in accordance with point 6.

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)

## 281550001200-FIXATIVE SPRAY FOR 3D PRINTING - 3DLAC



Version: 0  
Revision date: 25/06/2019

Page 11 of 12  
Print date: 25/06/2019

### 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code.

The product is not transported in bulk.

## SECTION 15: REGULATORY INFORMATION.

### 15.1 Safety, health and environmental regulations/legislation specific for the mixture.

The product is not affected by the Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

Product classification according to Annex I of Directive 2012/18/EU (SEVESO III): N/A

The product is not affected by Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.

The product is not affected by the procedure established Regulation (EU) No 649/2012, concerning the export and import of dangerous chemicals.

### 15.2 Chemical safety assessment.

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

## SECTION 16: OTHER INFORMATION.

Complete text of the H phrases that appear in section 3:

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Classification codes:

Aerosol 1 : Flammable aerosol, Category 1  
Eye Irrit. 2 : Eye irritation, Category 2  
Flam. Liq. 2 : Flammable liquid, Category 2  
STOT SE 3 : Specific target organ toxicity following a single exposure, Category 3

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

Abbreviations and acronyms used:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.  
BCF: Bioconcentration factor.  
CEN: European Committee for Standardization.  
DMEL: Derived Minimal Effect Level, exposure level corresponding to a low risk, that risk should be considered a tolerable minimum.  
DNEL: Derived No Effect Level, level of exposure to the substance below which adverse effects are not anticipated.  
EC50: Half maximal effective concentration.  
PPE: Personal protection equipment.  
IATA: International Air Transport Association.  
ICAO: International Civil Aviation Organization.  
IMDG: International Maritime Code for Dangerous Goods.  
LC50: Lethal concentration, 50%.  
LD50: Lethal dose, 50%.  
Log Pow: Logarithm of the partition octanol-water.  
NOEC: No observed effect concentration.  
PNEC: Predicted No Effect Concentration, concentration of the substance below which adverse effects are not expected in the environmental compartment.  
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

-Continued on next page.-

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)

## 281550001200-FIXATIVE SPRAY FOR 3D PRINTING - 3DLAC



**Version: 0**  
**Revision date: 25/06/2019**

**Page 12 of 12**  
**Print date: 25/06/2019**

Key literature references and sources for data:

<http://eur-lex.europa.eu/homepage.html>

<http://echa.europa.eu/>

Regulation (EU) 2015/830.

Regulation (EC) No 1907/2006.

Regulation (EU) No 1272/2008.

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.